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**University of California**  
Agriculture and Natural Resources

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*Sacramento County Master Food Preservers  
Monthly Wednesday Night Demonstration  
June 16, 2021  
Jams and Spreads*



**Resources:**

- Please visit the National Center for Home Food Preservation at <http://nchfp.uga.edu> for detailed information about research-based methods of home food preservation.
- UC ANR Catalog (<http://anrcatalog.ucanr.edu>)

Should you need assistance or require special accommodations for any of our educational programs, please contact us at 916-875-6913.

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## APRICOT FREEZER JAM

Source: Mrs. Wages brand of instant pectin.

- 4 cups fresh fruit, crushed or chopped\*
- 1½ cups sugar or Splenda (granular)
- 1 pouch no cook freezer jam pectin

1. Place the prepared fruit in a large bowl, set aside.
2. Combine sweetener with pectin in a small bowl. Mix well to prevent the pectin from clumping.
3. Mix the pectin/sugar into the fruit.
4. Stir gently for at least 3 minutes to distribute the pectin and sugar.
5. Ladle the jam into clean, freezer safe containers, leaving ½ inch of headspace.
6. Secure the lids and let the jam sit at room temperature for 30 minutes to thicken.
7. Store in the freezer for up to 1 year.

\*Frozen fruit can be easily substituted. Defrost the fruit enough to chop it then let it thaw completely before proceeding.

## FRUIT COBBLER JAM

Source: [Fruit Cobbler Jam - Pomona's Universal Pectin - Sugar Free No Preservatives \(pomonapectin.com\)](https://pomonapectin.com)

Makes about 5 cups

### Ingredients

- 4 cups of mashed fruit peach, nectarine, cherry, blackberry, blueberry, or a mixture — see below for a couple of specific ideas
- 4 teaspoons calcium water see step #1
- 1/4 cup lemon juice bottled
- 1 teaspoon ground cinnamon
- 1/2 teaspoon ground nutmeg
- 1-1/2 teaspoons vanilla extract or almond, which is great with cherries!
- 2 cups sugar
- 3 teaspoons Pomona's Pectin mixed with sweetener

### Instructions

1. Before you begin, prepare calcium water.  
To do this, combine  $\frac{1}{2}$  teaspoon calcium powder (in the small packet in your box of Pomona's pectin) with  $\frac{1}{2}$  cup water in a small, clear jar with a lid. Shake well.  
Extra calcium water should be stored in the refrigerator for future use.
2. Wash jars, lids, and bands. Place jars in canner, fill canner 2/3 full with water, bring to a boil. Turn off heat, cover, and keep jars in hot canner water until ready to use. Place lids in water in a small sauce pan; cover and heat to a low boil. Turn off heat and keep lids in hot water until ready to use.
3. Wash, pit, peel, chop, and mash fruit.
4. Measure fruit into sauce pan.
5. Add calcium water, lemon juice, cinnamon, nutmeg, and extract, and mix well.
6. Measure sugar into a bowl. Thoroughly mix pectin powder into sugar. Set aside.
7. Bring fruit mixture to a full boil. Add pectin-sugar mixture, stirring vigorously for 1 to 2 minutes to dissolve the pectin while the jam comes back up to a boil. Once the jam returns to a full boil, remove it from the heat.
8. Fill hot jars to  $\frac{1}{4}$ " of top. Wipe rims clean. Screw on 2-piece lids. Put filled jars in boiling water to cover. Boil 10 minutes (add 1 minute more for every 1,000 ft. above sea level). Remove from water. Let jars cool. Check seals; lids should be sucked down. Eat within 1 year. Lasts 3 weeks once opened.

### Notes:

Cherry Cobbler Jam: 4 cups mashed sweet cherries; 1-1/2 teaspoons almond extract; other spices as in general recipe.

Blackberry-Nectarine Cobbler Jam: 3 cups mashed nectarines and 1 cup mashed blackberries; 1-1/2 teaspoons vanilla extract; other spices as in general recipe.

## CHERRY-BERRIES SPREADABLE

Source: Ball Complete Book of Home Preserving

Yield: Makes about seven 8-ounce (250 mL) jars

- 5 tart apples, peeled cored and chopped
  - 6 cups halved hulled strawberries
  - 3 cups chopped pitted cherries
  - 3 cups raspberries
  - 2 cans (each 12 oz/355 mL) undiluted frozen unsweetened apple juice concentrated, thawed
1. Prepare canner, jars and lids.
  2. In a large, deep stainless-steel saucepan, combine apples, strawberries, cherries, raspberries and apple juice concentrate. Bring to boil over medium-high heat, stirring constantly. Reduce heat and boil gently, stirring frequently while mashing fruit, until mixture thickens, about 45 minutes. Remove from heat and test gel. If gel stage has been reached, skim off foam.
  3. Ladle hot jam into hot jars, leaving 1/4-inch headspace. Remove air bubbles and adjust headspace, if necessary, by adding hot jam. Wipe rim. Center lid on jar. Screw band down until resistance is met, then increase to fingertip-tight.
  4. Place jars in canner, ensuring they are completely covered with water. Bring to a boil and process for 10 minutes, remove canner lid. Wait for minutes, then remove jars, cool and store.

## OTHER SPREADABLE FIELDBERRIES

Source: Ball Complete Book of Home Preserving

For each of the following jams, follow the method for Spreadable Cherry-Berries above, but use the quantity of fruit and other ingredients specified in the variation and increase or decrease the cooking time in Step 2 as stated.

### Blueberries

Makes about six 8-ounce jars

4 tart apples, peeled, cored and chopped

10 cups blueberries

2 cans (each 12 oz.) undiluted frozen unsweetened grape juice concentrate, thawed.

In Step 2 increase cooking time to about 60 minutes.

### Strawberries

Makes about seven 8-ounce jars

5 tart apples, peeled, cored and chopped

12 cups halved hulled strawberries

2 cans (each 12 oz.) undiluted frozen unsweetened grape juice concentrate, thawed.

In Step 2 increase cooking time to about 30 minutes.

### Rhubarbers

Makes about six 8-ounce jars

4 tart apples, peeled, cored and chopped

5 cups halved hulled strawberries

2 cups finely chopped rhubarb

2 cans (each 12 oz.) undiluted frozen unsweetened apple juice concentrate, thawed.

In Step 2 increase cooking time to about 50 minutes.

## Spicy Peaches

Makes about five 8-ounce jars

4 tart apples, peeled, cored and chopped  
5 cups chopped, pitted peeled peaches  
1 can (each 12 oz.) undiluted frozen unsweetened apple juice concentrate, thawed.  
1/2 tsp grated lemon zest  
2 tbsp lemon juice  
1/2 tsp ground nutmeg  
1/2 tsp ginger

In Step 2 decrease cooking time to about 30 minutes.

### TIP

When making long-boil jams, it is essential to maintain a close vigil on the boiling fruit mixture. As the spread thickens, it tends to stick to the pan and can easily burn if it is not stirred frequently and thoroughly. Using a heavy-bottomed, good-quality saucepan also helps to prevent scouring.

If your mixture has not reached the gel stage when first tested, return the pan to medium heat and cook, stirring constantly, for an additional 5 minutes. Repeat gel stage testing and cooking as needed.

## FRUIT SPREADS: Problems and Solutions

Source: Fundamentals of Consumer Food Safety and Preservation, Master Handbook

Problem	Cause	Prevention
<b>Mold growth or fermentation.</b> Moldy jams and jellies are not safe to eat. They should be discarded.	<ol style="list-style-type: none"> <li>Failure to process in boiling water canner, allowing yeasts and mold to grow on jam or jelly.</li> <li>Imperfect sealing. (Common with paraffin-covered products and inversion method for settling.)</li> <li>Too little sugar.</li> <li>Improper storage.</li> </ol>	<ol style="list-style-type: none"> <li>Process in boiling water canner. Test seal before storing. Pre-sterilize jars when processed less than 10 minutes in boiling water canner.</li> <li>Use new flat lids for each jar and pre-treat the lids per manufacturer's directions. Process in boiling water canner. Test seal before storing.</li> <li>Follow processing and storage recommendations for low-sugar jellied products.</li> <li>Store processed jars in a dark, dry, cool place. Refrigerate after opening.</li> </ol>
<b>Too soft or runny.</b> Product is safe to eat.	<ol style="list-style-type: none"> <li>Overcooking fruit to extract juice.</li> <li>Using too much water to extract juice.</li> <li>Incorrect proportions of sugar and juice.</li> <li>Undercooking causing insufficient concentrate of sugar.</li> <li>Insufficient acid.</li> <li>Making too large a batch at one time.</li> <li>Moving product too soon.</li> <li>Insufficient time before using.</li> </ol>	<ol style="list-style-type: none"> <li>Avoid overcooking, as this lowers the jelling capacity of pectin.</li> <li>Use only the amount of water suggested in the instructions.</li> <li>Follow recommended proportions.</li> <li>Cook rapidly to jelling point.</li> <li>Lemon juice is sometimes added if the juice is acid deficient.</li> <li>Use only four to six cups of juice in each batch of jelly.</li> <li>Do not move jellied products for at least 12 hours after they are made.</li> <li>Some fruits take up to two weeks to set up completely; apricot jam, plum jelly and jellies or jams made from bottled juices may take longer to set.</li> </ol>

<b>Fruit floats in jam.</b> Products are safe to eat.	1. Under ripe fruit.	1. Use ripe fruit.
	2. Not thoroughly crushed.	2. Crush fruit uniformly.
	3. Undercooking.	3. Cook rapidly, following instructions.
<b>Bubbles.</b> Safe to eat unless bubbles are moving or product is spoiled.	1. Air became trapped in hot jelly	1. Remove foam from jelly or jam before filling jars. Ladle or pour quickly into jar. Do not allow spread to start to gelling before jars are filled.
	2. May denote spoilage. If bubbles are moving, do not use.	2. Follow recommended methods for applying lids and processing.
<b>Formation of crystals.</b> Product is safe to eat.	1. Excess sugar.	1. Use a tested recipe and measure ingredients precisely.
	2. Undissolved sugar sticking to sides of saucepan.	2. Dissolve all sugar as jelled cooks. If necessary, wipe sides of pan free of crystals with damp cloth before filling jars.
	3. Tartrate crystals in grape juice.	3. Extract grape juice and allow tartrate crystals to settle out by refrigerating the juice overnight. Strain juice before making jelly.
	4. Mixture cooked too slowly or too long.	4. Cook at a rapid boil. Remove from heat immediately when jellying point is reached. Make small batches at a time; do not double tested recipes.
<b>Crystals in grape jelly.</b>	1. Tartrate crystals.	1. Formed from the tartaric acid naturally present in grapes. To minimize crystal formation, let the freshly-extracted grape juice stand in the refrigerator two to five days. Pour or decant and strain the clear juice again through a jelly bag or coffee filter before making the jelly.

<b>Syneresis or weeping.</b> Product is safe to eat.	<ol style="list-style-type: none"> <li>1. Excess acid is product makes pectin unstable.</li> <li>2. Storage place too warm or storage temperature fluctuated.</li> <li>3. Product was sealed with paraffin.</li> </ol>	<ol style="list-style-type: none"> <li>1. Maintain proper acidity of product.</li> <li>2. Store processed jars in a cool, dark and dry place. Refrigerate after opening.</li> <li>3. Seal with lids and process in boiling water canner.</li> </ol>
<b>Darker than normal color.</b> Dark products are safe to eat, but may not have top-quality flavor.	<ol style="list-style-type: none"> <li>1. Overcooking sugar and juice.</li> <li>2. Stored to long or at too high a temperature.</li> </ol>	<ol style="list-style-type: none"> <li>1. Avoid long boiling. Best to make small quantity of jelly and cook rapidly.</li> <li>2. Store processed jars in a cool, dry, dark place and use within one year. Refrigerate after opening.</li> </ol>
<b>Cloudiness.</b> Safe to eat unless there are moving bubbles or product appears spoiled.	<ol style="list-style-type: none"> <li>1. Green fruit (starch).</li> <li>2. Imperfect staining of homemade juice.</li> <li>3. Jelly or jam allowed to stand before it was poured into jars or poured too slowly.</li> <li>4. If product does not have airtight seal, may denote spoilage.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use firm, ripe, or slightly under ripe fruit.</li> <li>2. Do not squeeze juice, but let it dip through jelly bag.</li> <li>3. Pour into jars immediately upon reaching gelling point. Work quickly.</li> <li>4. Seal with lids and process in boiling water canner.</li> </ol>
<b>Dark surface.</b> If there is no mold on or in the jelly, it is safe to eat.	<ol style="list-style-type: none"> <li>1. Air in jar.</li> </ol>	<ol style="list-style-type: none"> <li>1. Indicates the product was not processed, had too much headspace or the seal failed.</li> </ol>
<b>Wine-like flavor or odor.</b>	<ol style="list-style-type: none"> <li>1. Inadequate heat processing or stored too long in the refrigerator.</li> </ol>	<ol style="list-style-type: none"> <li>1. Caused by yeast fermentation of the sugar to alcohol and carbon dioxide.</li> </ol>

## BOILING WATER CANNING PROCESS

1. Before you start preparing your food, fill the canner halfway with clean water. This is approximately the level needed for a canner load of pint jars. For other sizes and numbers of jars, adjust the amount of water in the canner so it will be 1 to 2 inches over the top of the filled jars.
2. Preheat water to 140°F for raw-packed foods and to 180°F for hot-packed foods. Food preparation can begin while this water is preheating. Do not have the water boiling when you add the jars.
3. Fill, fit with lids, load onto the canner rack and use the handles to lower the rack into the water; or fill the canner with the rack in the bottom, one jar at a time, using a jar lifter. When using a jar lifter, make sure it is securely positioned below the neck of the jar (below the screw band of the lid). Keep the jar upright at all times. Tilting the jar could cause food to spill into the sealing area of the lid.
4. Add boiling water, if needed, so the water level is at least 1 inch above jar tops. Pour the water around the jars, not on them. For process times over 30 minutes, the water level should be at least 2 inches above the tops of the jars.
5. Turn heat to its highest position, cover the canner with its lid, and heat until the water in the canner boils vigorously.
6. Set the timer for the total minutes required for processing the food, adjusting for altitude.
7. Keep the canner covered and maintain a boil throughout the process schedule. The heat setting may be lowered a little as long as a complete boil is maintained for the entire process time. If the water stops boiling at any time during the process, bring the water back to a vigorous boil and begin the timing of the process over, from the beginning.
8. Add more boiling water, if needed, to keep the water level above the jars.
9. When the jars have boiled for the recommended time, turn off the heat and remove the canner lid. Wait no more than 5 minutes before removing jars.
10. Using a jar lifter, remove the jars without tipping and place them on a towel, leaving at least 1-inch spaces between the jars during cooling. Let jars sit undisturbed to cool at room temperature for 12 to 24 hours.



## ATMOSPHERIC STEAM CANNING PROCESS

1. Use a research tested recipe and processing time developed for a boiling water canner when using an atmospheric steam canner. An atmospheric steam canner may be used with recipes approved for half-pint, pint, or quart jars.
2. Add enough water to the base of the canner to cover the rack. (Follow manufacturer recommendations.)
3. Preheat water to 140°F for raw-packed foods and to 180°F for hot-packed foods. Food preparation can begin while this water is preheating. Do not have the water boiling when you add the jars.
4. Heat jars prior to filling with hot liquid (raw or hot pack). Do not allow the jars to cool before filling.
5. Load filled jars, fitted with lids, onto the canner rack and place the lid on the canner base.
6. Turn heat to its highest position to boil the water until a steady column of steam (6-8 inches) appears from the vent hole(s) in the canner lid. Jars must be processed in pure steam environment.
7. If using a canner with a temperature sensor, begin processing time when the temperature marker is in the green zone for your altitude. If using a canner without a temperature sensor, begin processing time when a steady stream of steam is visible from the vent hole(s).
8. Set the timer for the total minutes required for processing the food, adjusting for altitude. Processing time must be limited to 45 minutes or less, including any modification for elevation. The processing time is limited by the amount of water in the canner base. When processing food, do not open the canner to add water.
9. Monitor the temperature sensor and/or steady stream of steam throughout the entire timed process. Regulate heat so that the canner maintains a temperature of 212°F. A canner that is boiling too vigorously can boil dry within 20 minutes. If a canner boils dry, the food is considered under-processed and therefore potentially unsafe.
10. At the end of the processing time, turn off the heat and wait 2 to 3 minutes. Carefully remove the lid, lifting the lid away from you.
11. Using a jar lifter, remove the jars without tipping and place them on a towel, leaving at least 1-inch spaces between the jars during cooling. Let jars sit undisturbed to cool at room temperature for 12 to 24 hours.

